Royal Consolidated Gold Mine and Mills
Madam Felix-Hodson Mining District
Copperopolis Vicinity
Calaveras County
California

HAER No. CA-81

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWING

Historic American Engineering Record
Western Regional Office
National Park Service
U.S. Department of the Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

Royal Consolidated Gold Mine and Mills

HAER No. CA-81

Location:	Madam Felix-Hodson Mining District (see HAER No. CA-76), 4.0 air miles northwesterly from Copperopolis, Calaveras County, California UTM: 10.702810.4208135 Quad: Salt Spring Valley, California
Date of Construction:	1903
Engineer:	John Charles Kemp van Ee
Builder:	Royal Consolidated Mines (California) Company, Ltd.
Present Owner:	Meridian Gold Company P.O. Box 190 Copperopolis, CA 95228
Present Use:	Archaeological remains to be largely removed by excavation for large open-pit gold mine.
Significance:	The Royal Consolidated 120-stamp mill replaced the older 40-stamp Pine Log Mill for processing ore from the Royal mine. Constructed at the top of a knoll, with 60 stamp batteries arranged back-to-back on each side, it was the largest mill in the State at the time of its construction. The mill was also one of the first to use concrete bases for mounting stamps. The mill ran at capacity for only a few years and then operated sporadically through 1946. The Royal mill is part of the Madam Felix-Hodson Mining District.
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THE ROYAL MINE AND MILLS

The gold mine and mines of the Royal Consolidating Mining Company are located within the relatively small Madam Felix-Hodson mining district [HAER No. CA-76]. The district is situated on the west belt of the California Mother Lode, some 7 or 8 miles west of the main lode. Small-scale placer mining began in the late 1850s and expanded into vein prospecting and the erection of several small mills by 1860. Nearby copper deposits received the miners' attention during the Civil War, after which several gold mining companies initiated more substantial development. The Royal was the largest of these, but the Mountain King was also a prominent local mine [HAER No. CA-77]. Although the Royal's small company town of Hodson had a short life between 1903 and ca. 1915, the residences of a sparse population of miners, prospectors, and ranchers remained scattered throughout the hills. Several small mining and milling operations maintained activity in the district through World War II. For this recordation, the Royal Consolidated site has been divided into two areas: the hoisting works [HAER No. CA-81-A]and the mill [HAER No. CA-81-B].

The Royal story really begins with the Pine Log mine around 1876 [see discussion and figures in Madam Felix-Hodson District Gold Mines and Mills, HAER No. CA-76]. Serious gold mining and milling commenced in the Madam Felix District when Henry Botcher, a rancher and erstwhile miner from nearby Telegraph City, took over both the Pine Log claim in the north end of the district and James Tulloch's small 5-stamp gold mill on Littlejohn's Creek, about a mile and a half southeast of the mine.[1] Botcher's operation was very small, with but a few employees. Much of the gold ore he processed was mined from surface cuts along the vein, although he did sink a small shaft near the northern end of the claim on the best showing of ore he had found. In 1879, he and four San Franciscan associates incorporated this operation as the Pine Log Gold Mining Company.

About 1881, the Castle brothers, who were two Stockton ranchers, and Isaac Wilbur, a local grain broker, bought out Botcher and his friends and took over the Pine Log Mine. Moving south to the middle of the claim, they found another ore shoot and sank a shaft on the showing. For about three years, they continued running the Pine Log, milling about ten to twelve tons of ore a day at the old Tulloch Mill, now referred to as the Pine Log Mill.

Meanwhile, in June 1881, prospectors Andrew Ryall and John Goldthorp staked a claim about halfway between the Pine Log mine and mill, naming it the Royal Quartz lode.[2] Other prospectors joined in, locating more claims and conducting exploration on them for gold ore. Joseph Curtis, with four San Francisco backers, took over the Royal claim in 1883, formed the Royal Gold Mining Company, and began to find encouraging indications of the presence of gold ore. When Wilbur and the Castles closed down their little Pine Log operation in 1884 As mined out, or at least uneconomic, they began to take notice of Curtis's activity at the Royal and that of other prospectors on the adjoining claims. Their interest soon led to a buyout of Curtis's Royal Gold Mining Company and of a number of the neighboring claims. In September 1885, a new

company was organized by Wilbur and the Castles, the Royal Consolidated Mining Company, into which they merged the Pine Log assets and the Royal group of claims.[3]

Although this operation got off to a slow and cautious start, it was soon to put the little Madam Felix gold mining district in the limelight for a number of years. The closing months of 1885 found the Royal Consolidated Mining Company firmly in control of the central part of the district. William Hendrick, who had been useful to the company in helping to consolidate the Royal group of claims, was apparently employed at this time to proceed with more intensive prospecting and to initiate mining. Several surface pits were expanded and deepened and two tunnels, one on the Royal and the other on the Good Enough claim, were driven into the vein. At least three small shafts were put down, the principle one deep enough to require a whim for hoisting. From this shaft, a crosscut was driven to the vein, which was then prospected by drifting and stoping. Several hundred tons of ore from these workings were put through the mill and indicated a promising grade of ore.[4]

After several years, exasperated with Hendrick's cautious and somewhat haphazard mining activity, Wilbur and the Castles replaced him with an operator of more experience named Vietong. It was clear to Wilbur, who was now acting as general manager of the company, that a proper operating shaft with adequate surface facilities was needed so that a more vigorous mining program could be set up. The old Tulloch mill should be torn down and replaced by something more substantial and with a larger capacity. In the matter of the claims, they should be surveyed and application for patent made. Backing Isaac Wilbur up on this ideas was a new stockholder, J. D. Peters, a prominent Stockton businessman, who brought new capital to the Royal. Accordingly, Wilbur directed Superintendent Vietong to proceed immediately with this program.

Vietong collared a new working shaft, an incline, right on the common end line of the Royal and Good Enough claims. This shaft, pointed northeast and inclined directly down the dip of the vein, was laid out to intersect the drift from the Whim shaft. He soon had several hundred tons of ore stockpiled on the surface, waiting for the new mill to be constructed. When the old mill was torn down in 1890, enough escaped amalgam was cleaned up under the old battery to pay for nearly all of the lumber required for the new building. By early autumn of 1890, Vietong had a new five-stamp battery running, of much heavier construction than the old one and with a space prepared for adding a second battery. The new stamps had a weight of 750 pounds each.[5]

The State Mining Bureau, finally recognizing the emergency of a new and promising gold mine, reported on the operation in detail in 1892. Work had advanced on sinking the shaft and it had reached a depth of 150 feet with three operating levels. Although some work was still proceeding in the Good Enough tunnel, all ore now came up the new shaft. A large shafthouse, containing the steam-powered hoist, was completed, with the steam plant located just to the north of the shafthouse. The Pine Log Mill now had ten 750-pound stamps and was said to be "crushing 15

tons," presumably per shift (Figure 1). After passing over the amalgamating tables, the pulp was treated by two Frue vanners. The mill was equipped with a 50-horsepower steam engine, and mill water was said to be obtained from "Black Creek" nearby. Fifteen men were employed, with eight underground, five in the mill, and two on top.[6] The Bureau also noted that the fineness of the gold was low, bringing only $13.00 per ounce of the retorted metal ("sponge"). This characteristic of the Madam Felix gold ore had inhibited the early development of other mines in the district, and continued to plague later endeavors for years to come.

Recognizing the need for more technical knowledge in the operating organization, Wilbur now hired an experienced mining engineer, Daniel Jutton. A vigorous and capable individual, Jutton succeeded to the superintendency of the Royal mine within a year. Even under Vietong's management, things had been initiated in 1891, and by the fall of 1892 were on a monthly basis. October's dividend was $2,000, followed by $2,800 in November.[7] From then on, even though there were substantial expenses for construction and other improvements, under Superintendent Jutton's experienced supervision dividends were continued on a regular basis.

It had become apparent from the last few years' work that the best ore, encountered at the south end of the Royal and at the north end of the Good Enough, was part of the same ore shoot which raked almost due north at a low angle. Also, the mining from the Whim shaft and other tunnel workings had resulted in surface caving, and a new shaft was needed. It was time to take a good look at the overall situation. William Watson, a mine surveyor, and James Mills, a mining engineer and geologist, were hired to make a thorough study, including a district map, for the Royal mine, and to make recommendations for further work.[8] Their report, completed in July 1893, resulted in the collaring of a new shaft on the north end of the Good Enough that inclined almost due north under the Royal claim. The relocation of the main shaft also required a new surface plant. Superintendent Jutton, well qualified for such work, proceeded with all due speed to convert over to the new set-up and to keep the mine going at the same time.

Work proceeded very smoothly and efficientlyunder Jutton's supervision, and he soon completed construction of the new surface plant (Figure 1). Other improvements were also made, such as a new horse tram to the mill "Figure 2). This was steeper than Vietong's but shorter and on a uniform grade to better serve the new shaft. By the summer of 1896, the shaft had reached a depth of 520 feet, on the incline, with levels "turned" at every hundred feet. The 10-stamp battery was taken out of the mill and 20 heavier stamps, of 850 pounds each, were installed.[9] Improvements were also made to the always-critical water supply, including reclaiming water pumped from the mine.

As 1897 rolled around, the Royal was becoming a very successful little mine, with dividends of up to $5,000 being declared monthly [10] Jutton's crew of 30 men were keeping the twenty stamps down at Pine Log very busy and producing steady shipments of bullion to the San

Francisco mint and concentrates to Selby's smelter near San Francisco. As the shaft approached the 700-foot level, a new and larger pumping plant was installed to keep the mine workings dry.

It is not surprising that Isaac Wilbur's mine was receiving much favorable comment in gold mining circles. Calaveras County was booming; the Gwin Mine in Paloma had bee reopened; the Utica in Angels Camp was living up to its reputation as one of the richest Mother Lode mines; and the Melones Mine at Carson Hill was finally going into production.

One day in the latter part of 1897, the arrival of an impressive individual, recently from London, heralded the onset of the "Hodson" boom, for which the little Pine Log community, the Royal mine, and the Madam Felix mining district were quite unprepared. His name, John Charles Kemp van Ee, was impressive; his bearing and manner, likewise formidable, were inherited from his titled forebearers and had earned him the sobriquet of "Baron." His ideas about large-scale, low-cost operations reflected the latest thinking in the world of mining.[11]

Kemp van Ee, of Dutch parentage, had been born in New Jersey one year after the great 1849 rush to California. He caught the urge to go west at an early age, and arrived at San Francisco when he was only 17. After completing high school, he started his mining career in Tuolumne County, California, and then participated in the booms at White Pine and Pioche in eastern Nevada. His next move, in 1876, was to the mining camps of Bodie and Lundy in eastern California.

This soon resulted in his involvement in the now-legendary Sheepherder tunnel, just north of Tioga Pass. In 1880, he was selected to be superintendent for the Great Sierra Mining Company that was contemplating driving a tunnel to tap the riches of the Sheepherder vein at depth. Although Kemp van Ee was on this project for three years, the record of his accomplishments was impressive. Much of the tunnel was driven, a tiny town was created at an elevation of 9,300 feet, a telephone line was constructed to the town of Lundy, and a road was laid out from the mine across the Sierran crest to Crockers on the western flank. This later became known as the Old Tioga Road.

After leaving the Great Sierra Mining Company in 1883, Kemp van Ee was involved in a number of mining and railroad projects in Mexico and the western United States. His next interest was in the promotion of inventions such as the roll film, the steam steel axle-box, the Lee-Metford rifle, and the Compact phonograph. For much of this work, he made his headquarters in London. It was there that he became acquainted with John T. Hodson, an English contractor. In 1897, Hodson sent him to the United States to look for a mine as a speculative investment for Hodson and his associates. Such was the truly remarkable individual that came to Pine Log in October of that year to inspect the Royal mine. Earlier in the year, he had commissioned mining engineer William P. Miller to examine the mine. Miller's report was very favorable.[11]

Van Ee was much taken with the potential of the Royal mine, and soon sat down with Isaac Wilbur and J. D. Peters to make a deal. They agreed to a purchase price of $400,000, with a

down payment of $60,000. Then Kemp van Ee proceeded to talk them into a rather unique agreement for paying off the balance of the purchase price. It was agreed that 80% of the "profit" would go to Wilbur and Peters until the balance of the purchase price was paid. Profit was defined as all returns over $4.32 per ton mined and processed, and was based on the Royal's present mining and milling costs which totaled that amount. From the point of view of the Royal's principals, this appeared to be a good deal, as Superintendent Jutton had been able to hold the ore grade well above his costs. Kemp van Ee, on the other hand, was determined to reduce the costs substantially by a much larger-scale operation. Little did Wilbur and Peters realize that Kemp van Ee had cleverly outmaneuvered them.

The offer was made and Kemp van Ee telegraphed the news to Hodson. He then returned to Europe, met Hodson in Paris to fill him in on the details, and then spent Christmas with his wife and small son in London. Hodson, however, immediately arranged to have a team of experienced mining engineers--W. R. Beall of South Africa, J. Barr of Scotland, and W. R. Farish of Colorado--meet with Miller at the Royal mine to confirm his conclusions. Their report, estimAting "ore in sight" at 105,000 tons, was favorable enough to convince Hodson to proceed with the deal.[13]

Returning to California, after assuring his family he would send for them as soon as he had the proper accommodations, Kemp van Ee completed the necessary documents for the agreement. On the second day of February 1898, the deed transferring the Royal mine to the new company, Royal Consolidated Mines (California) Company, Ltd., was signed and duly recorded. The actual agreement itself was not made public or recorded until some six years later, when it was required for legal purposes.[14] Van Ee then devoted all of this time and energy to getting the Royal reorganized to his specifications. Although he maintained his numerous widespread contacts and kept up his insatiable interest in new developments, he found it necessary to spend most of his time for the next eight years either at the mine or attending to the procurement of supplies and other matters at San Andreas, Stockton, and San Francisco.[15]

Kemp van Ee was very busy for the first few months, getting to know all the details of the Royal organization and operation and making plans for its improvement. Fully understanding the principle of "economy of scale," his first major project was the expansion of the old Pine Log Mill from 20 to 40 stamps. For this, he relieved heavily on his excellent mill superintendent, James Shepherd. Commencing actual construction in June 1898, Shepherd was dropping 40 stamps by early 1899. Twenty of the stamps weighed 850 pounds each, but the new stamps were heavier, weighing 1,150 pounds apiece. The first twenty stamps had a "drop" of 6-1/2inches, and the new ones had 5-3/4inches. All were dropping at 104 times a minute. The discharge screens allowed 24-mesh material to pass through onto the amalgamation plates and the concentrators. The capacity of the mill averaged about 3-1/2tons per stamp daily, with the new batteries crushing about 14 tons more than the old ones. The concentrating equipment included eight Wilfley, three Johnson, and one Frue concentrator. Some of the Wilfley tables were used for recleaning the concentrates, which were then sent to Selby's reduction works near San Francisco.[16]

At the mine, meanwhile, Superintendent Jutton was beefing up the underground operation to produce the extra mill feed needed, some 75 tons a day. At the same time, Jutton had to continue shaft-sinking, developing new working levels, and opening up new stopes. Essentially no waste was produced, as the work was almost entirely within the thick vein and just about everything broken was hoisted and sent to the mill.

The little community of Pine Log consisted at that time of a superintendent's house, several small"lodging houses," a boarding house, a barn, a mine and assay office, and a few miner's cabins, all clustered around the Pine Log Mill on "Johnny Creek." A few ranch families lived in the vicinity, and a number of prospectors resided in cabins throughout in the district. Many of the thirty or so men working at the Royal stayed at Pine Log, although a few lived on ranches in Salt Spring Valley and at Copperopolis.

Manager Kemp van Ee soon decided that it would be in the best interests of the company to establish a real town at Pine Log, a "company town". Not only did he want to have proper accommodations and suitable conditions for his own family, but also for his staff and key employees. Just as he had named the little mountain town at Tioga Pass, Bennettville, after the company president, he would call this new town Hodson, after his London backer.[17]

By the end of 1898, workmen at Hodson were busy erecting a dozen "cottages" for employees with families. A post office had been established with Luther Everett as postmaster. A general store, built to be run as a company operation, was placed under the management of Phil Unger. Additional buildings soon followed, including a school, the manager's residence, company office, a large boarding and rooming house for single miners, and a hotel (Figure 3).[18] Kemp van Ee's family arrived in early 1899 from London and young Charlie entered the fourth grade at the Hodson school,

Walter F. Lanigan, an American mining man whom Kemp van Ee had known in London, was employed as office manager and secretary of the Royal Consolidated Mines (California) Company. Lanigan proved to be a popular and useful addition to the community. In addition to functioning as the right-hand man to Kemp van Ee, particularly after the departure of Daniel Jutton as mine superintendent, Lanigan was a notary public and served as the town's second postmaster and as a member of the school board.

Another productive associate of the Royal enterprise was James H. Finley, surveyor. He had come into the district in the late nineties, and had married one of the daughters of Abel Lowe, who lived over in Pine Log Creek Valley near the Mountain King mine. Finley received his appointment as a U.S. Deputy Mineral Surveyor in 1898, and soon was doing most of the claim surveys for patent applications in this and nearby districts. In 1899, he surveyed the Royal Mine Extension claims, a small fraction near the Royal hoisting works. It was necessary to resurvey this claim, which he did the following year, to qualify the odd-shaped fraction for patent. The Royal also used Finley's services in underground surveying and for surface projects.

Although Daniel Jutton was unquestionably a thoroughly competent and knowledgeable mine operator, and was effectively carrying out Kemp van Ee's expansion plans, a conflict was inevitable between these two strong personalities. The day finally came, probably in early 1899, when there was no longer room for both in the Royal organization, and so Jutton resigned and moved "down below" to Stockton. It appears that Jutton then approached Isaac Wilbur and convinced him that there might be opportunities for developing profitable ore south of the Royal, along the same vein. The Wilbur-Womble Mining Company was formed and the mineral rights on the Womble ranch, onto which the Royal zone extended, were purchased. Jutton was to re-enter the Royal picture again at a later date.

The summer of 1899 posed a new problem--water supplies became so low that it was no longer possible to run the expanded mill at full capacity. Jutton had managed to provide enough water for 20 stamps, but now Shepherd needed twice as much water. A crash program was set up to install a pumping plant at the Salt Spring Valley reservoir and to lay a 8-inch pipeline to Hodson, all of which was in operation by September of that year.[19] Wood supply was another problem for the Royal, as 5,000 cords of wood were now needed each year to provide steam for running the mine and milling machinery, as well as the pumps at Salt Spring Valley. The wood-cutting was done under contract.

Kemp van Ee's first thought had been to build a new 60-stamp mill to augment the Pine Log Mill. Upon further study, he decided to double the size of the new mill, and follow the design used by the Alaska Treadwell Company, that is, a back-to-back arrangement with 60 stamps on each side. Although a 120-stamp mill would be the largest on the Mother Lode, it was only half the size of the giant Treadwell mill.[20] Such a major expansion would also require enlarging the shaft, expanding the hoisting and crushing plant, and bringing in electric power.

By the end of 1899, there were 100 men at work at the Royal and the shaft was down to 900 feet. Plans were being finalized for the 120-stamp mill, and ground clearing at the site was soon to begin. The mill would be situated on the ridge just south of the shaft and hoisting works, and would be served by an elevated tram extending 1,600 feet from the crusher bins. The Royal Company, however, was experiencing problems in cash flow. Although the 40-stamp mill was running very efficiently, the grade of ore was lower than expected, and the new mill could not be contracted for until additional working capital was provided from London. One improvement that was possible, however, was the installation of a dynamo at the Pine Log Mill to provide lights for the plant and the town.

Throughout 1900, operations at the Royal mine and the Pine Log Mill continued at full capacity. At the mine, shaft-sinking proceeded whenever possible, and was facilitated by the introduction of the new Ingersoll air-powered rock drills. These drills were also replacing hand-drilling methods in the drifts and stopes of the Royal.[21] The stopes were becoming immense, but the ground stood so well that little or no timber was needed for supports. The main vein was almost flat in places, and elsewhere had only a gentle 10 to 20 degree dip to the northeast.[22] Mineralized transverse veins, nearly vertical, cut the main vein and contributed additional ore. Much of this

was of the variety that was beginning to be referred to along the Mother Lode as "gray ore," essentially pyritized country-rock adjoining the veins. The fine-grained disseminated pyrite was gold-bearing, but overall much lower in grade than the old ore shoot in the main quartz vein.

The cash flow from the bullion and concentrates sales during 1900 and 1901 was barely enough to sustain the Royal's operations. There were additional funds available only for engineering, the most preliminary construction efforts on the new mill, and some surface plant modifications. Kemp van Ee made a trip to New York, and perhaps to London, to meet with his English backers and convince them that more working capital was needed for expanding the operation to a profitable scale. By late 1902, he was successful.[23] Some restructuring of the controlling English corporation was required, and additional funds were to be made available by early 1903. Kemp van Ee was given the approval late in 1902 to let contracts for construction. The Calaveras Prospect reported on November 8th that 50 men were already employed on grading for the construction and that the overall project was estimated at a quarter of a million dollars.

A major improvement in communications accompanied Hodson's transition into the twentieth century. James Tower had set up a private telephone system between the ranches in Salt Spring Valley, using the barbed-wire fences for part of his conducting wire and thereby earning the nickname of "Barbwire Jim". Encouraged by Kemp van Ee, who had pioneered construction of a telephone line 20 years earlier, Tower completed the telephone line from Salt Spring Valley and Hodson west to Milton and south to Copperopolis in May 1901. It was now possible for the company to call the telegraph offices at these towns and thus have communication immediately with the outside world.

Until 1902, all power at the Royal and other operations in the Madam Felix District had been supplied by steam. Wood was the traditional fuel used and the wood-cutting activities were a major part of life at Hodson. Despite an authoritative report describing the Pine Log as a "very efficient power generator for a wood-burner,"[24] the Salt Spring Valley hills were being denuded of oak and pine for miles around. However, by mid-1902, a power line had been constructed to the Royal from Lane and Tulloch's new hydroelectric plant at Knight's Ferry on the Stanislaus River. The Pine Log Mill and the crushing plant at the shaft were now being run by electricity.[25] Problems arose somewhat later with the Knight's Ferry plant, and a second power line was run to Hodson from the Union Electric Company in Angels Camp. It might have been necessary, in the interim, to temporarily convert the Royal's steam plants to oil, for a November 22 item in the 1902 Prospect stated that "just now a great amount of oil for fuel is being shipped (from the railhead at Milton) to Hodson."

Another complication for Manager Kemp van Ee in 1902 was a lawsuit brought against him by his former partner in London, John H. Brotherton. The latter, suspecting that the Royal was turning into a profitable venture, appeared on the scene. He instituted his civil suit in an attempt to get a share of the ownership of the Royal. There were no grounds for this contention, and the case was dismissed. Brotherton tried two years later to reactivate the case, but again was unsuccessful.

The Madam Felix-Hodson District had never seen such activity as 1903 brought, and the population of Hodson and vicinity swelled to over 300 persons. Many of those who worked at the mine and on the new construction lived in Copperopolis and commuted the daily six-mile round trip. Many visitors came to see the bustling activity, some stopping over at the Hotel Royal in Hodson. It was said that, in that year, Herbert Hoover, even then a well-known mining engineer, visited the district briefly when on a trip to see his friend, David McClure, at the Gwin Mine nearby at Paloma.[26]

It was estimated that it would be necessary to hoist and crush ore than 1,000 tons of ore per day to keep the combined milling facilities busy. Accordingly, the shaft was enlarged to accommodate a second hoisting compartment, and a double-drum hoist was installed. The crushing plant was completely rebuilt, adding a Gates gyratory for the primary crusher, and an elevator to a revolving screen at the top of the plant, so that the fines could bypass the Gates secondary cone crushers. This plant would reduce the run of the mine ore to "minus-one-inch," suitable for stamp mill feed. New, larger crushed ore bins were added, positioned for easy loading for the four-car electric tram. This reached the mill by a 1,600-foot-long trestle, entering at a height of some 40 feet above ground. The mill bins held 3,000 tons, so that ore would be available to run the mill continuously. Six stamp batteries were mounted on each side of the mill, with each battery consisting of two 5-stamp units, designed by Fraser and Chalmers and manufactured by the newly-merged Allis and Chalmers companies of Chicago. One electric motor was provided to drive two batteries of 20 stamps (Figures 6, 7). The stamp batteries discharged over amalgamation tables, pulp dropped down to a lower deck, passed over Standard concentrator tables (Figure 8), and the "middlings" from these were cleaned on Johnson vanners on the bottom deck. The tailings on the north side of the mill ran through a tunnel to merge with the tailings from the south side, all of which were directed into a tailings pond in the ravine below.

J. T. Hodson made one of his rare trips to Hodson in early May to inspect the progress on the Royal's expansion program.[27] Another visitor shortly after that was mechanical engineer Horace F. Brown, who wrote an unusually detailed description of the project for the Mining and Scientific Press. He was especially impressed with the construction of the mill:

> If there is any feature that is distinctive to this mill in comparison to other and similar plants, it is the massiveness and solidity of the as a whole and the evident care and thoroughness with which it has been designed and erected.[28]

The start-up of the big mill was officially celebrated in Hodson on July 21, 1903, with a ceremony remembered by those present for many a year. "Hodson Celebrates the Great Even," "The Largest Quartz Mill in the State," "The Triumph of Mechanical Skill" proclaimed the newspaper headlines. Fully one thousand people crowded into Hodson to participate in the celebration. Politicians of every post and party, fellow mine owners and managers, and prominent local citizens rubbed elbows with a throng of employees and local residents. The Honorable Percy L. Shuman gave an extended address, extolling the many fine features of an enterprise, generously acknowledging that "the mainspring and inspiration of an enterprise of this magnitude is the genius of the manager,"

and that Kemp van Ee "has in this masterpiece of mine equipment erected an enduring monument to his greatness as a miner." After remarks by a number of dignitaries, Walter Lanigan, excelling as master of ceremonies, made the concluding address -

> Then little Zoe Thomas stepped on to the platform and there followed the crashing of glass as a bottle of champagne was broken in token of the christening. Mr. Kemp van Ee then touched the electric switch and grandly and majestically all that mighty machinery was in motion.[29]

This happy occasion was concluded with a long afternoon and evening of festivities. Little did anyone present imagine what was shortly to become of this magnificent venture.

Walter Lanigan, who had steadfastly served as Kemp van Ee's top assistant, decided in the autumn of 1903 that the time had come for him to return to his home in the East to engage in business there. His send-off, in early November, was indeed a "royal" one, and much was made of his part in the Hodson project.[30] Scarcely had Lanigan left, however, than trouble began. A union had been formed of miners working at the Royal, the Wilbur-Womble, and other mines nearby. Manager Kemp van Ee had fired one of the organizers, a Frank Rochester. The Independent Miners Union, as it was called, demanded Rochester's return, along with higher wages and shorter working hours. Kemp van Ee, acting under orders from J. T. Hodson, closed the mine down on November 25th. The union countered the lockout by picketing the company's workings and the town's approaches.

Early in December, the company hired a new crew of non-union miners from San Francisco. When the first contingent of 27 of these detrained at the Milton railroad station, they were met by some 150 men armed with clubs, axes, and possibly some firearms, and were turned back. Meanwhile, lawyers for the Royal obtained a restraining order against the Independence Miners Union from the U.S. Circuit Court in San Francisco, based on the grounds that the Royal was a foreign corporation. This allowed non-union miners to be put to work at the mine and mill, which was done during the last week in December. By the end of the first week in January, some 35 men were at work in the mine and milling had resumed with 40 of the 120 stamps. Gradually, the striking miners disbanded and operations returned to normal. The strike, however, had caused a substantial financial loss to the company.

Again under full production, every effort was made to increase the output of gold. Although some relatively good ore was encountered in the spring of 1904, the grade of the mined ore continued to be lower than expected. Part of the problem was that haste in providing more tonnage resulted in less selective mining and less attention to the maintenance of the grade.

In June 1904, operations improved with the completion of the chlorination plant for recovering gold from the sulphurets, or concentrates (Figure 9; see HAER No. CA-81-B-3). This plant employed a Merton "three-floor" roasting furnace, a type much used at that time in Australia. After roasting the concentrates, salt was added and the mixture run into a tank (called a barrel) to which water, sulfuric acid, and chloride of lime were added. The resulting gold-bearing solution was then

transferred to a second tank for precipitating the gold by the use of SO2 gas on charcoal. The solution containing the precipitated gold was then filtered by passing it through sawdust, and the gold recovered by incineration. A total of ten tons of concentrates could be processed per day.[31]

The years 1904 and 1905 was very busy ones for the Royal and for Hodson. Although mine and mill production was at capacity for much of this period, two problems existed: the grade of ore continued to be low, and the recovery of gold from the mill was not up to expectations. This was due in part to the large percentage of the gold occurring in fine-grainedpyrite. A substantial loss of the finer gold-bearing material in the "slimes," and the generally low recovery of the chlorination method, continued to plague the operation. Only a higher degree of ore-grade control in the mine, and improved milling technology such as modern-day flotation and cyanidation, could have made Kemp van Ee's operation successful. The constant squeeze in cash flow continued to cause a steady deterioration in the company's financial condition. By October 1905, conditions had reached the point at which the Royal was unable to keep current with payment of bills. At this juncture, Wilbur and Peters, who had received only some $29,000 of the total amount of $340,000 due them, and that only in the earliest part of the Kemp van Ee management, moved to recover the property. They filed a suit early in November in the Calaveras Superior Court, alleging non-performance and fraud on the part of Kemp van Ee. They asked the court to appoint a receiver, pending settlement of the case. The court obliged on November 15th by ordering that Daniel Jutton, former superintendent, be appointed receiver. Jutton took possession of the Royal operation on the 21st, and found matters in a sad state. The crew had not been paid since October 1st, and creditors had just petitioned that the Royal Consolidated Mining Company be declared bankrupt. Receiver Jutton was unable to keep the operation going, and within a few days everything ground to a halt.[32]

The collapse of the Royal Consolidated was a death blow for the town of Hodson and precipitated an exodus from the entire Madam Felix-Hodson District. Only a handful of people remained--longtime residents, ranchers, and those with some other form of livelihood. The struggle for control of the property through the Superior Court continued for several years. The case was not formally tried until September 1907, and Judge McSorley did not hand down his final decision until January 9, 1909. He ordered the receiver discharged, the property returned to its English owners, and Kemp van Ee absolved of any wrong doings. In effect, Wilbur and Peters lost the mine and all monies due them.[33] By this time, however, Kemp van Ee, who lost faith in the venture back in 1905, was involved elsewhere in speculations in oil and in cement manufacture. The English owners had not paid any taxes since 1904, and the property was deeded to the State in 1910. For all effective purposes, the grand old Royal had been abandoned.

In 1914, Hodson came back to life. Through the efforts of R. E. Whitcomb, the Boston concern of Edmund Fordyce and Company, made a deal with the London group, who were still the nominal owners of the Royal, to purchase the mine. A glowing report by E. P. Jennings, a mining engineer from Salt Lake City, concerning the Royal's possibilities stimulated Mr. Fordyce to reopen the mine and mill. Jennings reported that the 123,000 tons processed by Kemp van Ee in the bid mill had yielded $3.72 per ton. Frank W. Page was sent out from Boston to take charge in June 1914. A

new company, Royal Calaveras Mining Company, was formed. By the following year, the mine had been dewatered and was in production, the mill rehabilitated, 60 stamps were in operation, and a crew of 125 men employed. But, by March 1916, Page had found out that unless the mill was converted to flotation, and cyanide used for treating the concentrates, the operation was indeed uneconomic. Shortly thereafter, the Royal was closed down by the Fordyce Company, and the property held by its subsidiary, Royal Calaveras. Compounding the ill events, in July 1915, a disastrous fire burned much of the lower part of Hodson and completely consumed the old Pine Log Mill. This facility had been idle since 1905, however, and much of the equipment had been salvaged.[34]

After another three years of neglect, the Royal came back to life, at least momentarily, when the Texas-CaliforniaMining Company leased the property and mine and milled a small quantity of ore. This company gave up its lease in 1922. During those years, Frank Tower, a member of the ranching family of Salt Spring Valley and much interested in mining, had taken some short leases on the mine and had developed some constructive ideas on how the Royal should be worked. In 1927, he obtained a lease from Royal Calaveras and, from that time to 1947, was essentially in control of the property. He subleased it to Royal Development Company of Nevada in 1929, and later to Western Empire Mining Company. The latter added a small flotation circuit an, in 1931, milled 1,000 tons of ore. That lease, however, was dropped, and Frank Tower decided to begin his own mining and milling operation of the Royal.[35]

The Great Depression was actually a time of prosperity in most of the gold-miningdistricts of the west, for low wages and low cost of supplies coupled with a fixed price of gold allowed many gold mines to reopen and operate profitably. Then, with gold's increase in price in 1934 from $20.67 to $35.00 per ounce, a boom in gold-miningcommenced that continued until the War Production Board's shutdown of gold mines in 1942.

Frank Tower found himself very well situated to participate in this increased gold-miningactivity. He controlled a well-equipped mine and a large, though somewhat obsolete, mill (Figure 10). He operated the Royal Mine on a small scale on his own account, maintaining the grade of ore to between $6 to $8 per ton by carefully selective mining. From time to time, he "blocked-leased" portions of the mine out to small independent miners, and milled their ore for them. At the big mill, he improved the flotation circuit, but continued to use the old stamps for pulverizing the ore. The two 10-stamp batteries at the southwest corner of the mill for spare parts and materials as needed. He tore down the old trestle and replaced it with a surface tram and a skipway up to the mill bins. In 1936, Frank Tower acquired full title to the Royal property by redeeming the delinquent taxes and receiving title from the State, as the Royal Calaveras Mining Company had become defunct.

From some of Tower's records that have survived, it appears that he milled some 77,821 tons of ore from the Royal mine from 1932 to 1942, with a gross production value of $845,353. This represented approximately 19,000 ounces of gold and about 4,000 ounces of silver. It is probable that he averaged a net return of between two and three dollars per ton, providing him with a comfortable living during those depression years.

Frank Tower maintained the Royal mine during the remainder of the war, hoping to renew his operation after the cessation of hostilities. He permitted some small leasing operations, such as those of Allen Doe, during the war, as well as an exploration lease granted to Pacific Bridge Company. After the war, however, he made the decision to discontinue operations and sold the entire property in 1947 to Charles Stewart of Fresno, who had in 1942 purchased the adjoining Mountain King Mine (see HAER No. CA-77). Tower's last operation in 1947 was a small but very spectacular one. Exploration drilling by the Pacific Bridge Company had discovered a hot prospect on the site of the old Hodson butcher shop, the scene of Frank's first job when working for his brother Jacob during the Hodson boom many years before. A small shaft was sunk and, in September, Tower mined out a rich high-grade pocket of gold said to contain more than 1,000 ounces.[36]

When Charles Stewart took over the property, the big mill and most of the remaining buildings and equipment were torn down, the equipment sold mostly for junk, and some of the massive timbers salvaged for use in the construction of a Fresno shopping center. Today, only the concrete foundations and a few rotting timbers remain on the site, to mark the location of the once-fine mill (see HAER Photographs No. CA-81-B-1 through CA-81-B-3) and surface plant (see HAER Photograph No. CA-81-A-1). A new open-pit mining operation was initiated in the lAte 1980s by the Meridian Gold Company, and its activities will result in mining out much of the surface of the Royal and adjoining claims, and covering of other portions of the area with extensive waste and tailings dumps. Modern technology and a free gold price favor this company's efforts to successfully mine the same elusive low-grade gold ore that J. C. Kemp van Ee worked to recover many years before.

END NOTES

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[30] Calaveras Prospect (November 21, 1903).

[31] "Chlorination at Hodson, California." Mining & Scientific Press (August 27, 1904).

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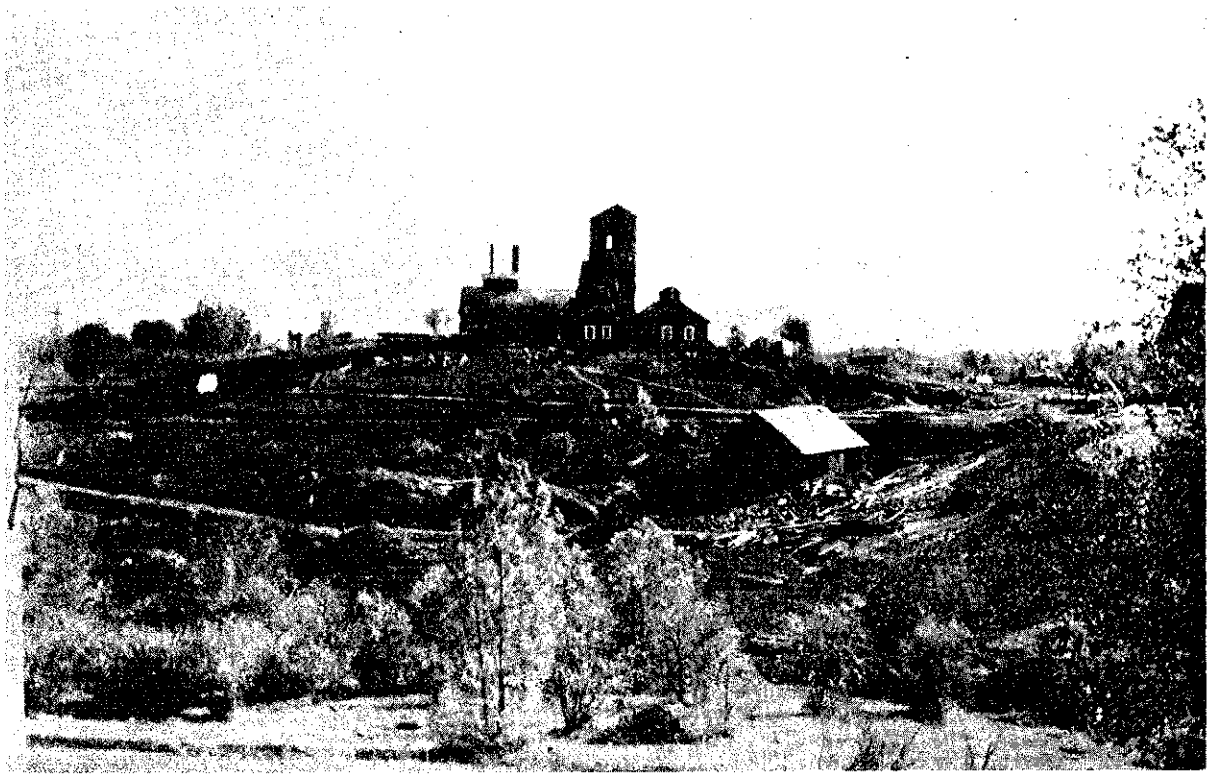


Figure 1 HAER CA-81-A. Looking south at the Jutton shaft hoisting works, Royal mine, about 1900. Part of the Vietong shaft-house can be seen at extreme right. Calaveras County Historical Soceity (CCHS) Photo No. 1056.

Figure 2 HAER CA-81-A. Looking east at the Jutton shaft hoisting works, Royal mine, about 1900. Note the horse tram cars in foreground, just returning from the Pine Log mill. CCHS Photo No. 1062

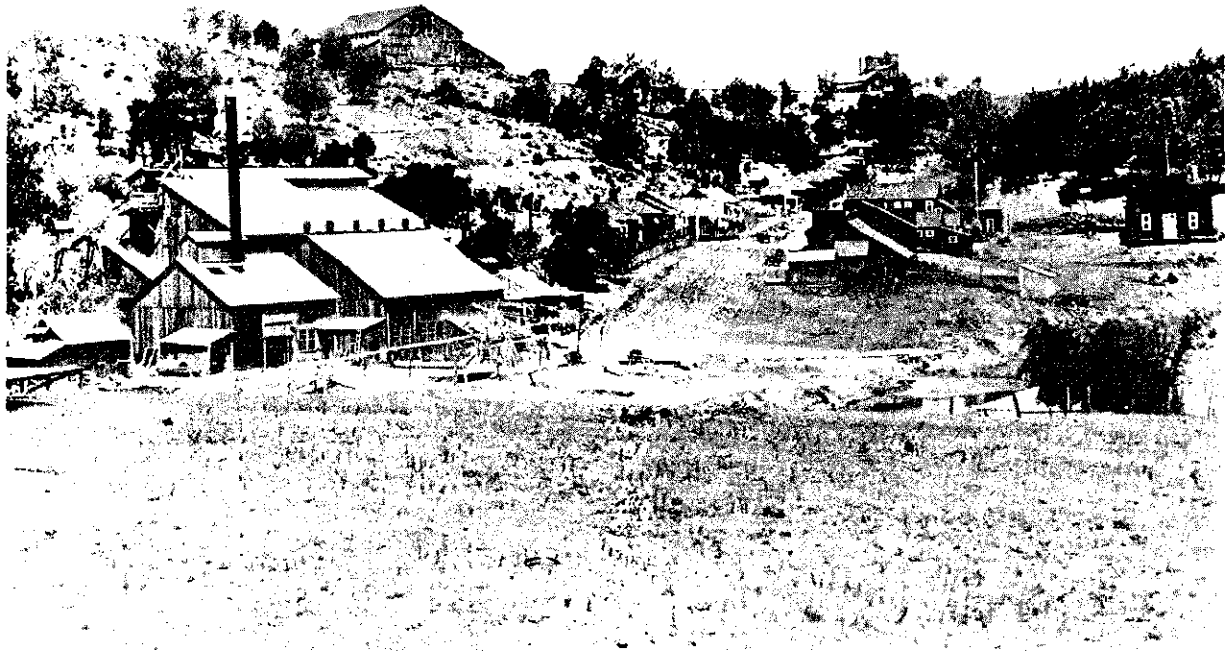


Figure 3 Looking northwest across Littlejohn's Creek to Hodson in 1903. Pine log mill in left foreground and the Royal mill (HAER CA-81-B) above on skyline. Royal hoisting works (HAER CA-81-A) also on skyline to right. Note that slopes were denuded of trees for firewood before the Pine Log mill was converted to electricity. CCHS Photo No. 5061

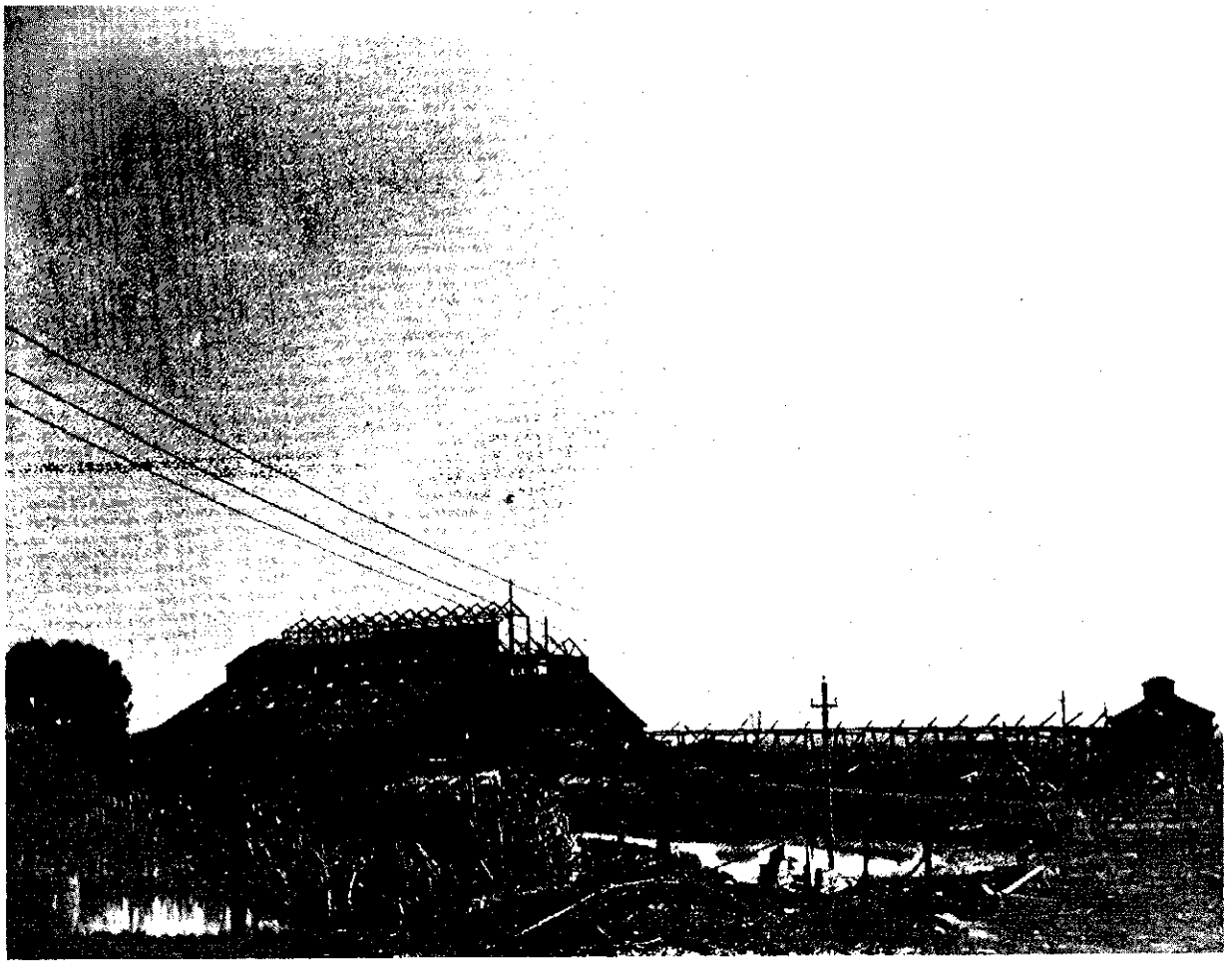
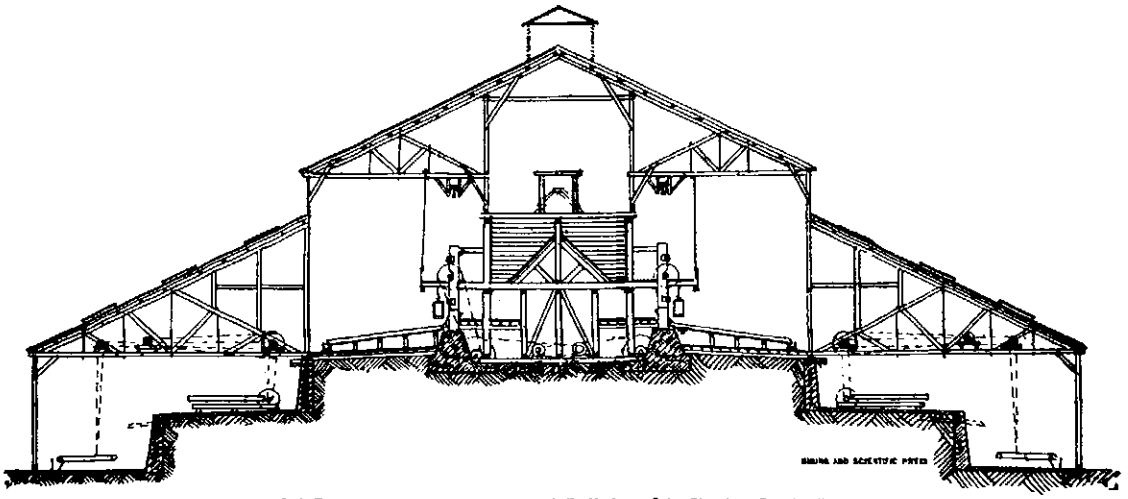


Figure 4 HAER CA-81-B. Looking southeast to Royal 120-stamp mill under construction in 1903. Mill reservoirs in foreground and lower bents of trestle on right. CCHS Photo No. 5059

Figure 5 Looking southeast at the Royal surface plant (HAER CA-81-A), 1903. Abandoned Vietong shaft-house partially visible in left foreground. The new crushing plant and ore bins are the tall structures at left. The high trestle leads to the 120-stamp mill (HAER CA-81-B) in background. CCHS Photo No. 1519.



End Elevation Royal Con. 120-Stamp Mill, Hodson, Cal., Showing Construction.

Figure 6 HAER CA-81-B. Cross-section of Royal 120-stamp mill building from the Mining and Scientific Press, May 1903.

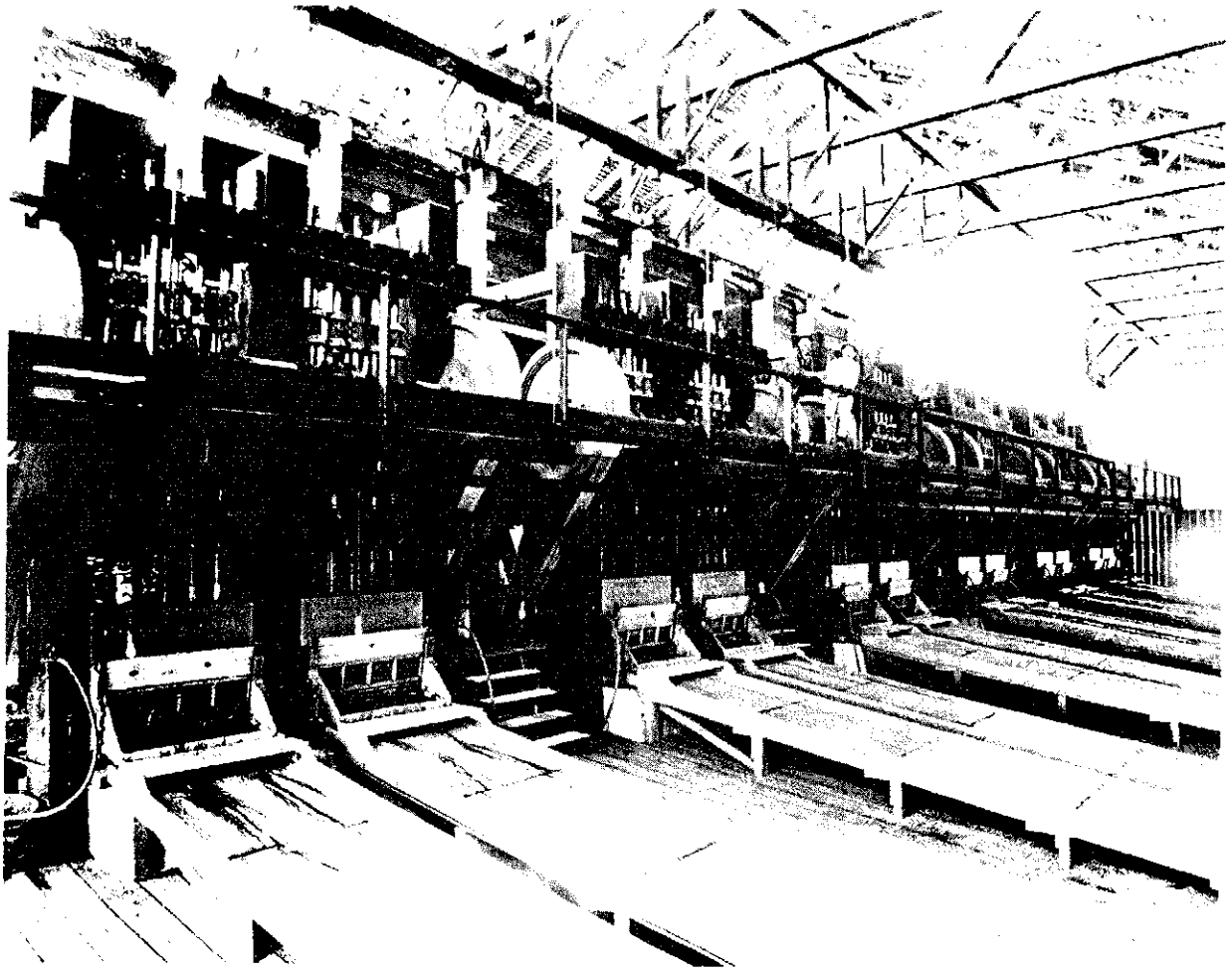


Figure 7 HAER CA-81-B. The amalgamating floor of the Royal mill when completed in 1903. Sixty Allis-Chalmers stamps were mounted "back-to-back" on each side. Amalgamation tables in foreground. CCHS Photo No. 5205

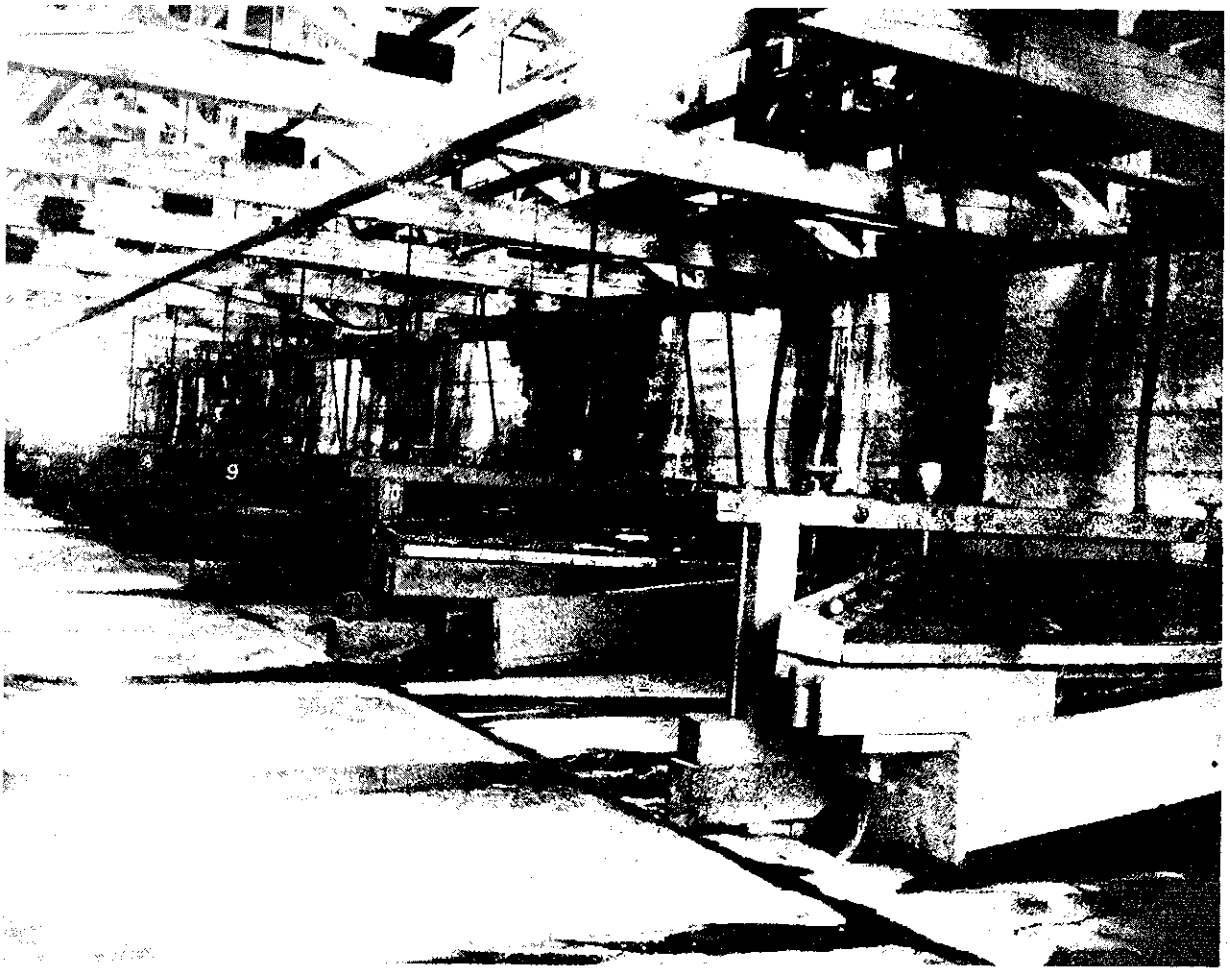


Figure 8 HAER CA-81-B. Concentrating floor, Royal mill, showing the standard concentrators. CCHS Photo No. 1068.

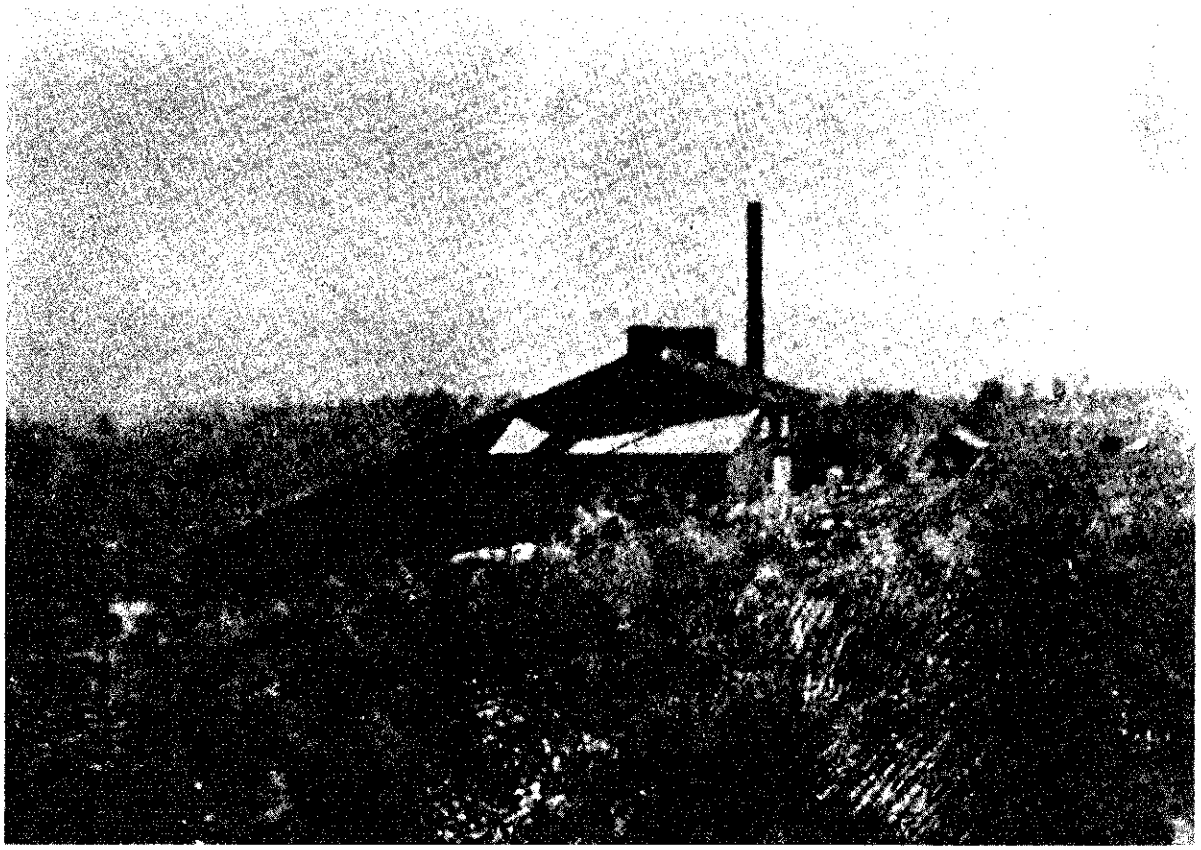


Figure 9 HAER CA-81-B. Looking south at the Royal chlorination plant; a snap shot taken about 1912, after shutdown on the Royal operation. Holt-Atherton Center for Western Studies, University of the Pacific, Stockton, California; Photo No. P78-369.

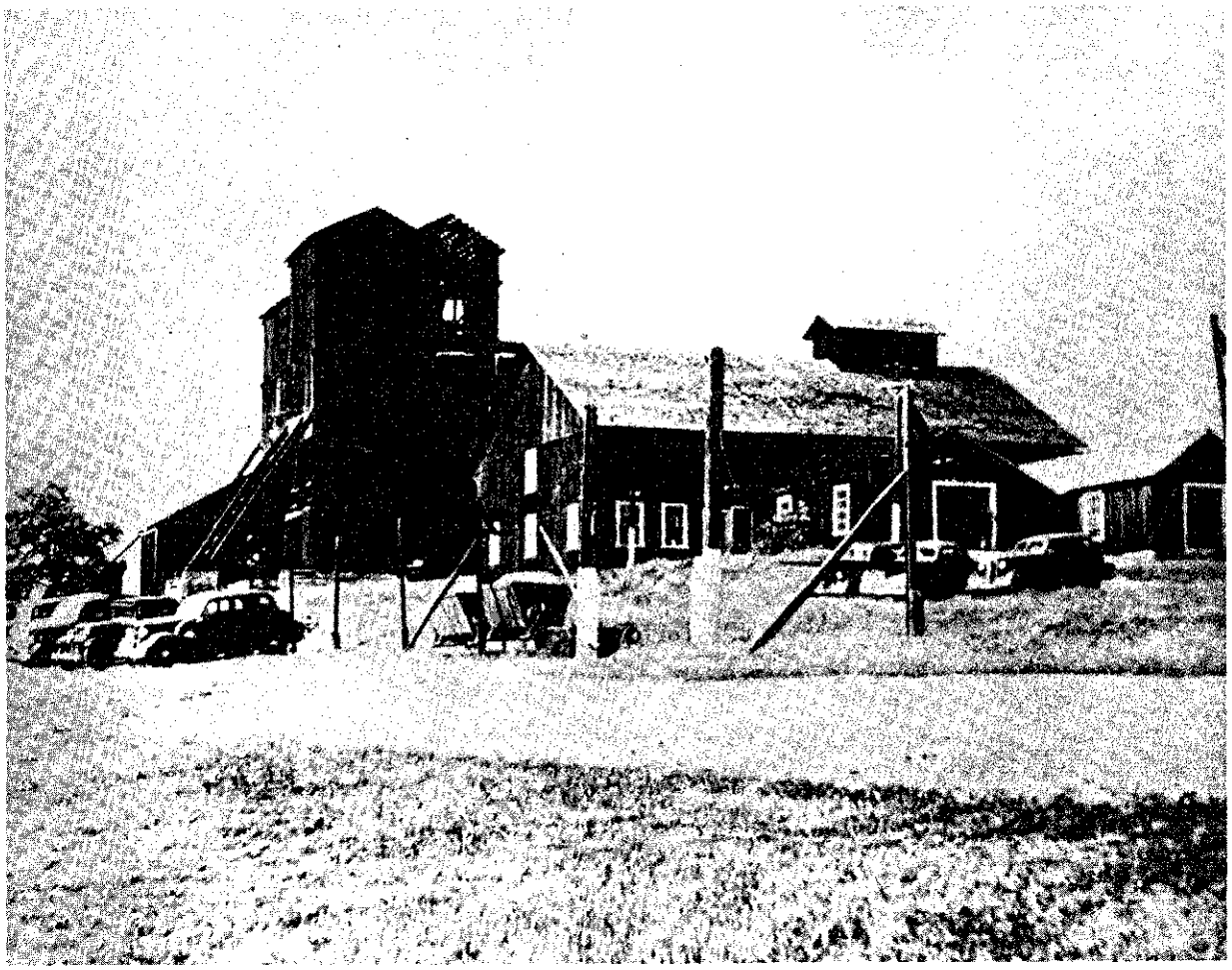


Figure 10 HAER CA-81-A. Looking northeast at the Royal hoisting works in 1940. The old trestle has been removed and replaced with a surface tram. CCHS Photo No. 1231.

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